

Document: Proposed Rule

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**TITLE 864 STATE BOARD OF REGISTRATION
FOR PROFESSIONAL ENGINEERS**

Proposed Rule
LSA Document #00-225

DIGEST

Amends 864 IAC 1.1-2-2 to change one of the minimum education requirements from a bachelor of science degree to baccalaureate degree; to change the minimum education requirements by requiring 12 semester credit hours in engineering design; to require applicants to state on their application the courses that satisfy the education and experience requirements for admission to the professional engineer examination; and to specify that EI or EIT applicants whose educational levels meet the requirements for an EI or EIT in Indiana do not need any additional education to sit for the PE examination. Effective July 3, 2001.

864 IAC 1.1-2-2

SECTION 1. 864 IAC 1.1-2-2, AS AMENDED AT 23 IR 2002, SECTION 1, IS AMENDED TO READ AS FOLLOWS:

864 IAC 1.1-2-2 Engineers; education and work experience

Authority: IC 25-31-1-7; IC 25-31-1-8

Affected: IC 25-31-1-12

Sec. 2. (a) This section establishes the minimum education and experience requirements under IC 25-31-1-12 for admission to the professional engineer examination.

(b) The following table establishes provisions for evaluating combined education and experience to determine if it is sufficient to satisfy minimum registration requirements under IC 25-31-1-12 for professional engineer registration applicants holding the stated degrees:

Education (Qualifying Degree)	Minimum Years of Progressive Work Experience Following Baccalaureate Degree
Doctorate in an engineering discipline following a baccalaureate degree in an approved engineering curriculum	2
Master of science degree in an engineering discipline following a baccalaureate degree in an approved engineering curriculum	3
Doctorate in an engineering discipline following a baccalaureate degree which is not in an approved engineering curriculum	4
Master of science degree in an engineering discipline following a baccalaureate degree which is not in an approved engineering curriculum	5

Baccalaureate degree in an approved engineering curriculum	4
Bachelor of science Baccalaureate degree and completion of specific educational courses as required in subsection (c)	6

(c) The education of all applicants, except those who have obtained a baccalaureate degree in an approved engineering curriculum, must include the following:

- (1) At least twelve (12) semester credit hours in college level mathematics, excluding college algebra and trigonometry, which must include a minimum of nine (9) semester credit hours of calculus and a minimum of three (3) semester credit hours of advanced calculus based mathematics.
- (2) At least eight (8) semester credit hours in college level courses in the physical sciences which must include a minimum of three (3) semester credit hours of calculus based physics and a minimum of three (3) semester credit hours of chemistry.
- (3) At least twelve (12) semester credit hours of engineering sciences that require calculus as a prerequisite or corequisite.
- (4) Effective January 3, 2003, at least twelve (12) semester credit hours in engineering design.**

(d) For a course to qualify as an engineering design course, the course must instruct on the decision making process in which the basic sciences and mathematics and engineering sciences are applied to convert resources optimally to meet a stated objective. Among the fundamental elements of the design process are the establishment of objectives and criteria, synthesis, analysis, construction, testing, and evaluation. The content of an engineering design course must include some of the following features:

- (1) Development of student creativity.**
- (2) Use of open ended problems.**
- (3) Development and use of modern design theory and methodology.**
- (4) Formulation of design problems statements and specifications.**
- (5) Consideration of alternative solutions, feasibility considerations, production processes, concurrent engineering design, and detailed system descriptions.**

Further, it is essential that a variety of realistic constraints, such as economic factors, safety, reliability, aesthetics, ethics, and social impact be included.

(e) An applicant for admission for the examination must:

- (1) include on the application, or a document attached to the application, which courses meet the requirements of subsection (c) by stating the course names and numbers; and**
- (2) submit all college transcripts that show that college credit was awarded for the claimed courses.**

~~(f)~~ **(f)** No degree requirement under this section may be achieved by obtaining an honorary degree or a degree obtained entirely by correspondence.

~~(g)~~ **(g)** College courses with substantial duplication of content may be counted only one (1) time toward the requirements of subsection (c).

~~(h)~~ **(h)** Progressive experience of sufficient quality when used relative to the requirement for experience on engineering projects as provided for in IC 25-31-1-12(a) means the applicant has demonstrated the ability to assume continuously increasing levels of responsibility for engineering projects.

~~(i)~~ **(i)** No experience obtained prior to obtaining a baccalaureate degree shall qualify.

~~(j)~~ **(j)** Part-time experience acquired while the applicant was a full-time student shall not qualify. All other part-time experience shall be converted to its full-time equivalent in evaluating an application.

~~(k)~~ **(k)** Notwithstanding other provisions of this section, applicants who hold either a valid certificate as an EI or an engineer-in-training (EIT) do not need any additional education beyond that which was required for admission to the EI or EIT examination **in Indiana**, so long as they apply for admission to the professional engineer examination no later than the first examination application deadline (as provided for in 864 IAC 1.1-3-4), which is subsequent to seven (7) years after the date the applicant took and passed

the engineering intern examination. ~~or by July 3, 2000, whichever is later.~~ (State Board of Registration for Professional Engineers; Rule 2, Sec 2; filed Feb 29, 1980, 3:40 p.m.: 3 IR 627; filed Oct 17, 1986, 2:20 p.m.: 10 IR 435; filed Sep 24, 1992, 9:00 a.m.: 16 IR 726, eff Jan 1, 1993; filed Mar 28, 1995, 2:00 p.m.: 18 IR 2103, eff Jul 4, 1995; filed Mar 28, 1995, 2:00 p.m.: 18 IR 2112, eff Jan 3, 1997; filed Mar 27, 2000, 8:58 a.m.: 23 IR 2002)

SECTION 2. SECTION 1 of this document takes effect July 3, 2001.

Notice of Public Hearing

Under IC 4-22-2-24, notice is hereby given that on March 15, 2001 at 8:30 a.m., at the Indiana Government Center-South, 402 West Washington Street, Conference Center Room D, Indianapolis, Indiana the State Board of Registration for Professional Engineers will hold a public hearing on proposed amendments to education and work experience requirements for engineers. Copies of these rules are now on file at the Indiana Government Center-South, 302 West Washington Street, Room E012 and Legislative Services Agency, One North Capitol, Suite 325, Indianapolis, Indiana and are open for public inspection.

Gerald H. Quigley
Executive Director
Professional Licensing Agency